

Short Communication

How a Longitudinal Advanced Pharmacy Practice Experience Program Transforms Students Into New Practitioners

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Abstract

Student pharmacists discuss their professional and personal experiences in completing a diversified block of advanced pharmacy practice experience rotations at one institution.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official position of the Ernest Mario School of Pharmacy, Capital Health, and Knight Scholar Program.

Introduction

Background

The American Society of Health-System Pharmacists and the American College of Clinical Pharmacy have recommended that by 2020, all entry-level pharmacists who wish to provide direct patient care should complete a postgraduate-year-one (PGY1) residency [1,2]. However, securing a PGY1 position is becoming increasingly competitive now that the demand currently supersedes available positions. Recent surveys assert that strong letters of intent and recommendations from preceptors carry the most weight when deciding which candidates are invited for interviews. One survey also reports that PGY1 Residency Program Directors most desire students who have completed multiple Advanced Pharmacy Practice Experience (APPE) rotations within a single practice setting [3]. In an effort to meet student demands for high-quality clinical experiences and provide health systems with individuals to support pharmacy practice management, the Ernest Mario School of Pharmacy (EMSOP) developed a longitudinal advanced pharmacy practice experience (LAPPE), the Knight Scholar program.

In 2014, Capital Health piloted the Knight Scholar program with four students. Since then, the program has expanded to five more EMSOP sites in New Jersey, including Hunterdon Medical Center, Robert Wood Johnson University Hospital - Somerset, St. Barnabas Medical Center, St. Joseph's Regional Medical Center, and St. Peter's University Hospital,

training a total of 17 students in 2017. Each year in a class of approximately 215 students, at least 50 students apply. It is modeled after postgraduate pharmacy residency training and is highly selective, requiring candidates to submit an application including a letter of intent, curriculum vitae, and academic transcript, and participate in an interview. To ensure fairness and equanimity, students rank their most desired Knight Scholar rotation sites. If the number of students who rank a particular site exceeds the number of open spots, the student will move into his/her next ranked site. The EMSOP faculty and site preceptors then review the students'

applications to select the most appropriate students for their site. The program requires students to complete three clinical APPE rotations and one hospital practice APPE rotation within a single health-system, consecutively. Additionally, participants complete longitudinal research projects and present their results at local and/or national pharmacy conferences.

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Outcomes

Of the 27 students who have completed the LAPPE and graduated since 2015, all have had abstracts accepted and subsequently presented posters at a national or state health-system pharmacy conference. Following graduation, 18 graduates have entered PGY1 pharmacy residency training (table 1), three have entered pharmaceutical industry fellowship training, and five accepted staff pharmacist positions in health-system, community pharmacy or home infusion practice.

Table 1. PGY1 Pharmacy Residency Match Rates

Year	National ⁴	Knight Scholar
2015	64.5%	75%
2016	68%	85.7%
2017	67%	89%

Anecdotal Program Experiences

Rotational

Four student pharmacists completed their Knight Scholar rotations at Capital Health in Emergency Medicine, Hospital Practice, Infectious Disease, Internal Medicine, Neurological Intensive Care Unit (ICU), or Surgical ICU. The presentation requirements for an EMSOP APPE student include at least one patient case, seminar, and journal club completed over the course of three faculty rotations. In comparison, each of the Knight Scholars were required to complete all three during each clinical rotation at Capital Health. In addition, these students also gave formal lectures to physicians and medical residents at “noon conferences” as well as short drug information responses to interdisciplinary rounding teams in the ICU and on the general floors. Consequently, the rigorous and diverse presentation load helped the Knight Scholars become more comfortable and confident in their communication skills. Furthermore, with the continued support from her former preceptors, each Knight

Scholar was in the unique position to openly discuss complicated patient cases from different perspectives, maximizing her rotational experience [4].

Over the course of 20 weeks, the preceptors continuously challenged each Knight Scholar with thought-provoking questions and projects, ultimately fostering her gradual transition from a traditional student to an inquisitive student pharmacist.

Professional

The pharmacy profession is increasingly involved in transitions of care (TOC), especially for medication reconciliation and patient education [5]. To align with this vision of involving pharmacists in more efficient and effective care transitions, all Knight Scholars participated in TOC training prior to rotations, provided by EMSOP in collaboration with the state Blue Cross - Blue Shield insurer. Professional development seminars were also offered to students throughout their rotational experiences on how to conduct and analyze clinical research, apply to postgraduate residencies and fellowships, write a successful CV, prepare for interviews, and present robust clinical research in front of a diverse audience.

Research

Student involvement in scholarly activities breeds future scholarship [6]. Research projects at Capital Health in 2017 include a diversity of topics, such as the impact of basal insulin on patients with renal insufficiency, intradialytic parenteral nutrition, treatment of carbapenem-resistant enterobacteriaceae infections, and treatment of renal colic with IV lidocaine. Throughout the rotation, students were constantly challenged to manage their time effectively and engage in the critical evaluation of research. In addition, each clinical research project introduced the Knight Scholars to the Institutional Review Board (IRB) submission process. After completing Biomedical and Clinical Research Investigator training under the Collaborative Institutional Training Initiative Program, the Knight Scholars each submitted an IRB application with the assistance of their immediate mentors.

Service

Every year, Knight Scholars lead a service project in collaboration with Knight Scholars from other sites. This year, the Capital Health Knight Scholars piloted a health outreach that involved education of patients’ families and friends in addition to hospital staff and volunteers on the importance of vaccination, particularly against tetanus and influenza. This public health initiative was in response to the U.S. Department of Health and Human Services’ recommendation following Hurricane Harvey, Irma, and Katia to remain up-to-date with all routine vaccinations, especially tetanus-containing immunizations [7].

Teamwork

Given their familiarity with the health system, the Knight Scholars became an inevitable resource for concurrent Introductory Pharmacy Practice Experience (IPPE) and APPE students. Thus, they were able to exercise their roles as leaders and contribute to the education and training of future pharmacists. For example, they helped orient new students to the electronic medical records as well as provide assistance in writing strong cover letters. As effective liaisons to the administration, new students felt comfortable approaching them for guidance and advice. In terms

of supporting pharmacy residents, the Knight Scholars helped screen appropriate candidates for patient counseling and provided assistance with a medication use evaluation as well. The Knight Scholars also provided constructive peer-to-peer feedback to the pharmacy residents after case presentations, adding to their diversity of training.

Amongst themselves, the students formed a strong and supportive network, sharing resources such as patient monitoring forms for inter-professional rounds and data collection sheets for research. Students also worked together to solve systematic challenges, which enhanced problem-solving skills and fostered independence and leadership. The Knight Scholars consistently supported each other even while on different rotations. Through struggles and wins, the students inevitably grew as a team.

Conclusions and Impact to Current Students

The future of pharmacy depends on the development of residents as scientific professionals, which enhances the need for evidence-based decision-making, scholarly activities, and research [5]. For students on the brink of transitioning into new practitioners, LAPPE rotations have been shown to improve the delivery of advanced patient care, enhance professional development and student involvement in longitudinal research, and increase interest in post-graduate residency training⁸. These special APPE rotations also streamline the rotation experience by eliminating the time to learn new computer systems and familiarize with new institutions.

Block scheduling APPE rotations are not entirely new. Institutions such as University of Florida, University of Toledo, Raabe College of Pharmacy, and St. John's University have implemented LAPPE programs as well [3,8,9]. All of these programs were established in response to the ongoing challenges of ensuring appropriate breadth and depth of experiential rotations. Compared to traditional APPE students, block scheduled APPE students were more likely to collaborate and engage in cooperative problem solving, such as creating a unified patient monitoring form for a specific rotation [9]. Block scheduling was also found to decrease preceptor burden by decreasing the need to orient new students each month.

After four consecutive rotations within a single health system, Knight Scholar students have gained the knowledge and skills necessary to function as an active member of the healthcare team, innovative experiences that will prepare him/her for success in a postgraduate training program, and a network of preceptors, practitioners, and P4 students who can support his/her professional career. They have also contributed to the education and training of concurrent IPPE students, completed a clinical research project suitable for publication or poster presentation, and led a service project. This experience has allowed students to develop the critical skills to fuel their desire to innovate and advance the pharmacy profession throughout their careers.

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